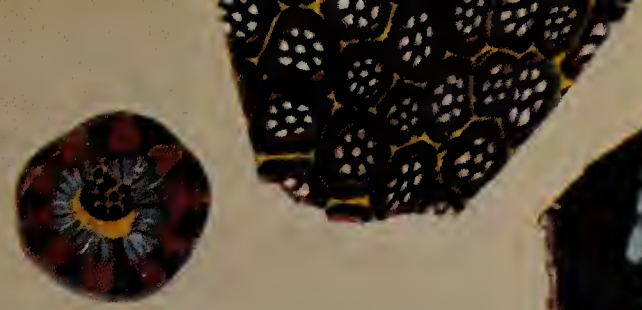
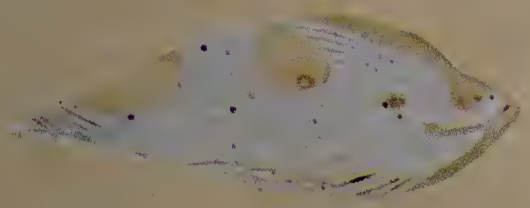
MUSEUM NEWS

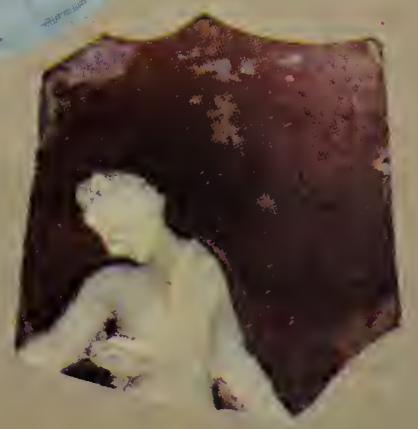
THE TOLEDO MUSEUM OF ART

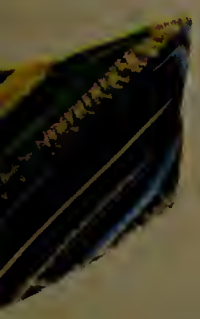
FOUNDED BY EDWARD DRUMMOND LIBBEY

SPRING 1961









THE TRADITION OF GLASS

Today we take glass as much for granted as we do the water we drink from it, or the television we view through it. We use it for containers, for ornaments and in architecture. These same uses were made of glass some 3,500 years ago, but with a great difference. Glass containers were then used only for precious perfumes and the wine cups of kings; glass beads were real and not substitute jewelry; and glass inlays were restricted to royal palaces. Today everyone enjoys glass in almost unlimited quantity and variety. Common usage has dulled our wonder at the unique qualities of the material and its high value throughout antiquity.

The fundamental technology of glass has changed little in three thousand years. Sand and soda are still the basic ingredients, and the ways of forming and decorating glass are the same in principle today as they were when Christ was born. The only really significant development took place about two thousand years ago with the discovery that glass could be shaped with a blow pipe. That changed a luxury into a commodity. Application of machine methods of mass production in the late 19th century changed the craft into an industry.

Toledo's economy is founded on glass, and The Toledo Museum of Art is a product of that economy. Toledo's chief industry was brought here in 1888 when Edward Drummond Libbey moved his glass works from Cambridge, Massachusetts. The Museum, which he founded in 1901, still derives a large part of its support from Toledo's glass industry through the endowments and gifts of Mr. Libbey and others. The objects illustrated in this handbook are gifts of Edward Drummond Libbey except for one item.

This handbook is the first Museum publication of the Museum's ancient glass collection. Handbooks of the Museum's collections of American and European glass will follow shortly.

Otto Wittmann, Director

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THE TOLEDO MUSEUM OF ART

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SPRING 1961 ***New Series: Volume 4, Number 2***

EDITOR: Otto Wittmann

ASSISTANT EDITOR: Millard F. Rogers, Jr.

COVER: The various techniques used in ancient glass are illustrated by these fragments from the Museum's collections.

Sand-core vase. Translucent turquoise glass with opaque yellow and white decoration. 4⅞″ high. Egypt, 18th Dynasty, ca. 1500 B.C.

Below. Detail of bowl on subsequent page.

ANCIENT AND NEAR EASTERN GLASS

The story of glass is almost as long as recorded history; the oldest glass articles we know, made around 2500 B.C., were found by archaeologists digging in Egypt and in the Tigris-Euphrates region. They do not suggest an extensive industry, being beads and small rods, probably used for inlays.

After these early beginnings there is a gap of a thousand years in our knowledge. In passing let it be said that modern science and archaeology have barely made a start in tracing the story of ancient glass. Suddenly, around 1500 B.C., small vases, probably made to hold precious perfumes and unguents, turn up in Egypt once more. These objects, beautifully made and finished, reveal a technical ability that must have been gradually developed in earlier centuries. Some were made by the sand-core method which involves dipping a preshaped lump of moist sand into molten glass, then smoothing the hot glass

Mold-pressed amulet of Astarte. Translucent blue glass. 3″ high. Eastern Mediterranean, possibly Syria, ca. 1500 B.C.

which clings to it to the desired shape, and scraping out the sand-core after cooling. Usually these vessels were decorated with glass threads of different colors arranged in various patterns. Other vessels and sculptures were probably made by grinding from solid blocks, while still others may have been pressed in a hollow mold as were the glass beads and amulets produced in other parts of the Eastern Mediterranean at about the same time.

These techniques — essentially those of the potter, metalworker and gem cutter — were not suited to the ductile properties of glass, nor to the development of an extensive industry. Glass articles were, and remained for centuries, small in size, reserved for uses of the highest luxury, and treasured like the precious metal vessels and jewelry they imitated. The high regard the Egyptians, Phoenicians, and Mycenaeans had for these exquisite, fragile objects is attested by the fact that most of them have been found in tombs and graves, usually of important persons.

Another factor which contributed to the scarcity of glass at this time was the limited number of places where glass was made from raw materials. Only complex civilizations, such as those of Egypt and Mesopotamia could provide the skills and capital needed for the operation of the relatively inefficient furnaces used to melt sand and soda to produce glass. It is therefore not surprising that glass products found in widely separated areas were apparently made from the same sort of bluish-green, translucent glass. It is thought that glass of this kind was made up into ingots for export in bulk from large centers to small, local workers. These importers did not have the furnaces or technology required for making bulk glass from raw materials, but they could fuse in molds small chips of glass produced by crushing ingots of unformed glass. This example is but one ancient instance of the demand for luxury goods attendant upon a stable society creating international trade according to the law of supply and demand.

From about the 12th to 9th centuries B.C. the economic and political balance of the ancient world was upset by the incursion of migratory peoples from the North, among them the Dorians, Ionians, and Aeolians, parent strains of the classical Greeks. The great Aegean, Near Eastern, and Egyptian civilizations, moreover, had reached a point of development where conflict was inevitable. The resulting wars, while producing the great Biblical and Homeric epics, did little to stimulate glass production. So few examples have survived from this period of upheaval that it is safe to assume that production declined to a mere trickle.

In the subsequent centuries, the rise of the Hellenic city-states, the Assyrians, and the Egyptian Saites once more resulted in a stable world, reviving a desire for the good things of life and the commerce necessary to its fulfillment. Glass was produced in greater quantities than ever before, although its manufacture was still limited to items of luxury.

There is reason to think that Egypt at this time lost its earlier preeminence as a center of glassmaking. Sand-core wares from the 7th to the 1st centuries B.C. are now thought to have been made on the Eastern Mediterranean islands and coast, while small vases, mold-pressed cups, and bowls of transparent, almost colorless glass have been found along a route stretching from the Assyrian capital at Nimrud across Asia Minor to the Greek peninsula. These discoveries are not surprising since many other elements of Greek culture had their sources in the Orient. Some of these cups and bowls are beautifully cut with an abrasive wheel in elegant stylized petal patterns. The precision with which such designs were made on thin vessels suggests an affinity of the glass cutter with the metalworker.

In the century or so before the birth of Christ, Hellenistic civilization reached a high degree of prosperity. The demands of wealthy patrons taxed the glassmaker's ingenuity to produce items precious not so much for the material of which they were made as for the ingenious craftsmanship which they demonstrated.

The art of glass cutting reached a point of perfection at this time that was only equalled by German artisans in the 17th century. All possibilities were explored: gem-like engraving and facet-cutting in clear glass, cutting laminated sheets of different colors in cameo fashion, and precise concentric pat-

Mold-pressed necklace. Translucent blue glass (oxidized) rosettes with glassy faience links. 11″ long. Mycenaean, 14th-13th century B.C.

terns formed by turning a vessel on a lathe. Color assumed greater importance than before in fused mosaic plaques and inlays, *millefiori* (thousand flowers) bowls, and gold band bottles. These techniques depended upon the fusion of different colored strips of glass in patterns, but other methods involved actual painting on glass in fired enamels or unfired colors. Actual gold was often used in the body of the glass itself or fused between two layers. Free-trailed, pressed, or tooled applied ornaments were also used. In short, every decorative technique used today with the exception of acid etching was perfected around the time Christ was born and employed with a boldness and imagination rarely equalled since.

To us, however, these virtuoso skills seem unimportant compared to the development of glass blowing during this period. The technique was probably known for some time before its possibilities were recognized and exploited, very likely by Syrian glassworkers. The earliest surviving examples of their cups and bottles are blown in a patterned mold, frequently incorporating the name of the maker (a note of justifiable pride as well as good advertising) or a phrase of greeting appropriate to the use of the vessel. Mold-blowing gave the glassmaker a great advantage over his competitors, the potter and metalworker. For the first time elaborately decorated shapes could be produced accurately in large numbers, and bottles of uniform size could be made for transporting oils and wine. This fact made possible a great expansion of the ancient glass industry beyond the production of complexly decorated "collectors' items." Glass, rather than bronze or clay vessels, became standard household items, at least for the wealthy. The excavation of Pompeii revealed an additional use of glass. Cast sheets were used for windows, which admitted little light, but kept out the weather. To meet the growing demand, glasshouses were established early in the Christian era in Italy, France, and the Rhineland.

Gradually the ductile properties of glass came to be better understood, and free-blown wares were made in increasing quantities. Sometimes vessels were blown in several colors to achieve marble-like effects of great richness.

As in previous centuries, glass was used for personal adornment. Beads were frequently made of fused mosaic slices and core-made pendants often took the form of human or animal heads, many of which reveal the ancient glassmaker's sense of humor as well as his skill.

In the West, the progress of the glass industry was rather abruptly halted by the influx of barbaric tribes and subsequent breakup of the Roman Empire in the 5th century. Glass production declined to almost nothing, to judge from surviving examples, until the Renaissance.

In the East, however, the Byzantine and Islamic Empires provided sufficient economic and political stability for further development of the industry. Among the most interesting objects that have come down to us are the mold-blown Syrian bottles and ewers, dating through the 6th century, which bear Jewish and Christian symbols such as the menorah or cross. The Syrians also delighted in ornamenting their free-blown wares by applying trailed and tooled

Sand-core ware (left to right):
Amphora. Olive-green glass with opaque light blue and yellow thread decoration. 6⅛″ high. Eastern Mediterranean, 2nd century B.C.

Stamnos. Translucent dark blue glass with opaque turquoise, yellow and white decoration. 3½″ high. Eastern Mediterranean, possibly Syria, 4th-3rd century B.C.

Oinochoe. Opaque white glass with purple thread decoration. 4¼″ high. Eastern Mediterranean, 6th-4th century B.C.

Alabastron. Opaque, deep-blue glass with turquoise, white and yellow thread decoration. 7″ high. Eastern Mediterranean, possibly Rhodes, 5th-4th century B.C.

elements, often in contrasting colors, transforming simple flask and bottle shapes into animals or elaborate fantasies. They demonstrated an inventiveness and command of molten glass which revealed their understanding of their material.

The Moslem world inherited and developed the glass techniques of the peoples they dominated. Islamic craftsmen were especially skilled in the application of pinched or pressed decorative elements to blown shapes, and they excelled in making vessels that were reinflated after being blown in molds. The wheel and facet-cut wares of Iran and Egypt, while Islamic in shape, ultimately depend upon Roman models for their decoration. There are Islamic flasks which, although probably blown, recall pre-Christian sand-core vessels because of their small size and feather-like thread decoration. From the Syrians came the love of animal shapes, both solid and blown. Best known are so-called "Dromedary flasks" of quadrupeds bearing elaborately festooned vases on their backs.

Perhaps the greatest Islamic contribution to the history of glass lies in enamelled wares of the 13th and 14th centuries. Moslem glassworkers developed enamelling and gilding on large bowls, mosque lamps, and bottles to a perfection never reached before. Islamic enamelled vessels generally show a superior sense of design as well as technical mastery. Indeed, it was such enamelled glass that provided the inspiration for Venetian enamelled glass of the Renaissance. It is a curious twist of history that when the Islamic glass industry declined, it was Venetian craftsmen who revived it in the 17th century.

This brief survey spans some four thousand years of glass in the ancient world and the Near East. From the foregoing one can draw an interesting conclusion. The number of technological developments in this broad period is remarkably small, but the variety and richness of the wares produced are a testament to the creative spirit of man.

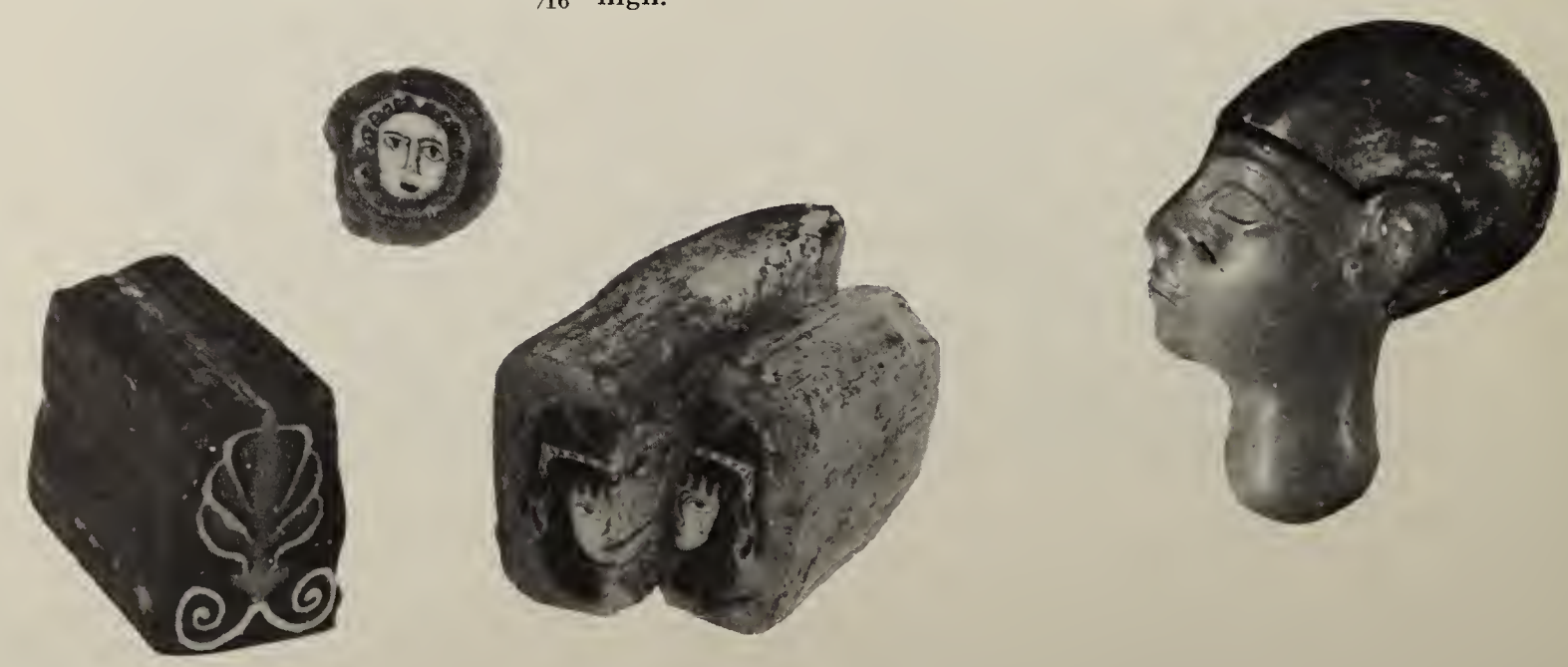
A NOTE ON TOLEDO'S COLLECTIONS.

The Museum's glass collections were largely assembled by Edward Drummond Libbey who brought the glass industry to Toledo, Ohio. Before and after World War I, he assembled an important collection of ancient glass which he presented to the Museum in 1917 and 1923. Notable in these gifts were the collections previously assembled by Edwin Atlee Barber and Thomas E. H. Curtis. These collections were particularly strong in Hellenistic and east-Roman glass. Since 1926 the Museum has acquired, with funds bequeathed by Mr. Libbey, important examples of Egyptian, west-Roman, and Islamic glass, including two pieces from the Eumorfopoulos collection. Additions are con-

Fused mosaic glass (left to right): *Palmette design:* opaque gray, red, yellow and white elements on opaque dark blue glass field. 11/16" high.

Slice with face: opaque white, purple, black, yellow and gray glass. Drilled for use as a bead. 7/16" high.
Two halves of face design: opaque red, black, blue, yellow and green glass on opaque blue glass field. 11/16" high.

Mold-pressed inlay head. Opaque red glass face with opaque dark blue glass crown. 1 7/16" high. Egypt, Ptolemaic or early Roman, 3rd century B.C.-1st century A.D.



Wheel and lathe cut bowl. Pale blue-green translucent glass. Diameter 4½". Eastern Mediterranean, possibly Alexandria, 3rd-2nd century B.C.

tinually being made to improve the quality and broaden the scope of the collections.

The vast majority of ancient glass objects that have come down to us were found in the ground. Over the centuries the chemical action of salts and acids in the earth have altered the surface appearance of the material so that today it is coated with an oxidized layer, usually of a mottled iridescent sort. This iridescence is merely an accident of conditions, although it was once much admired by collectors and imitated by modern glassworkers such as Louis Comfort Tiffany. Originally, however, ancient glass was either transparent or of a uniform opaque color except where mosaic or marbled effects were intended. Ancient blown glass was given the same "fire-polish" as modern wares. Some of the examples illustrated in the following pages reveal the ancient glassmakers art in its pristine brilliance, without the alterations caused by the earth.

Rudolf M. Riefstahl

Gold-band alabastron. Opaque blue, white, green oxidized glass with gold foil. 3⅝″ high. This flask may originally have had a separately made gold or silver neck. Probably Roman or Alexandrian, 1st century A.D.

Cased glass vase (right). Opaque white body cased in translucent pale blue layer. Pressed applied lion masks and stem of translucent, colorless glass. 10¾″ high. Roman, 1st-3rd century A.D.

Cameo glass amphora. Dark blue translucent glass cased in translucent white glass. Cut and engraved after blowing to produce cameo effect. 7½″ high. Vessels such as this one must have been rare even when they were made, since only about a dozen exist today in more or less complete form. The famous Portland Vase which inspired Wedgwood's blue-white ware is another cameo piece. Probably Roman, 1st century A.D.

Molded ribbed bowl. Lathe cut amber glass. Diameter 7 1/16". Probably Roman or Alexandrian, 1st-2nd century A.D.

Core-fused pendants. Opaque red, yellow, white, blue and black glass. Height (left to right) 13/16", 1 1/16", 7/8", 5/8". The dating of objects of this type is most uncertain, but they are clearly related in technique to late sand-core vessels. Eastern Mediterranean, probably Syria or Egypt, 6th century B.C.-1st century A.D.

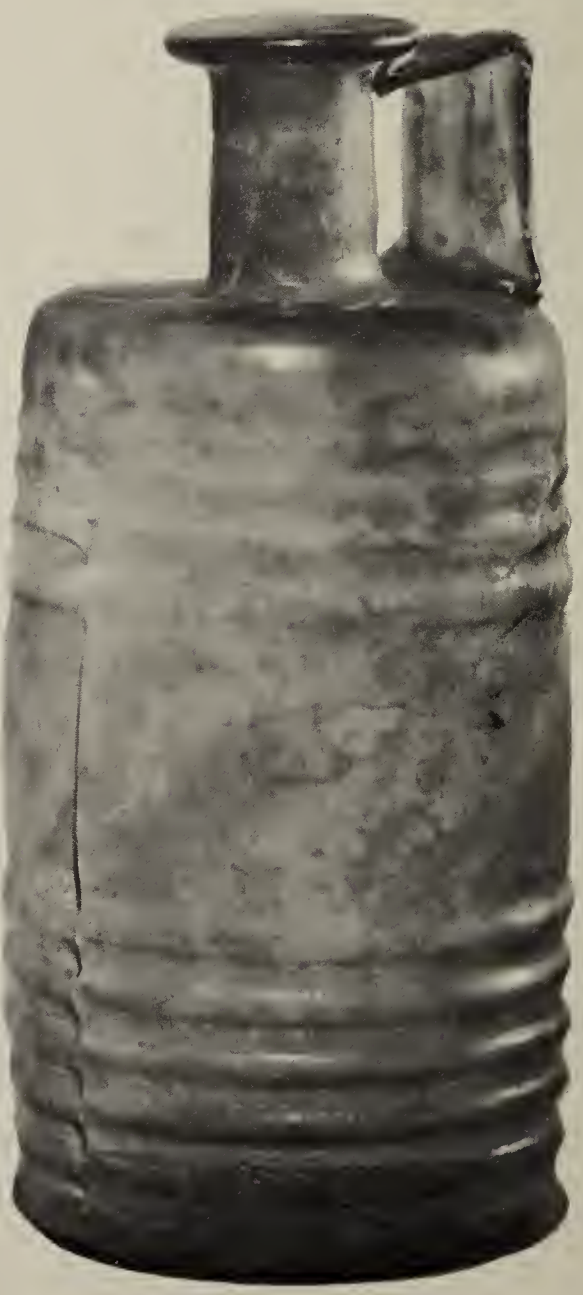
Mold-blown vessels (left to right): *Pyxis* with applied handles. Transparent, colorless glass with purple streaks. 2⅛″ high.

Beaker. Transparent green glass inscribed in Greek "Neikais made me. Let the buyer remember." 3⅜″ high.

Beaker. Transparent green glass inscribed in Greek: "Wherefore thou art come, rejoice." 2⁹⁄₁₆″ high.

All are Syrian, 1st century A.D.

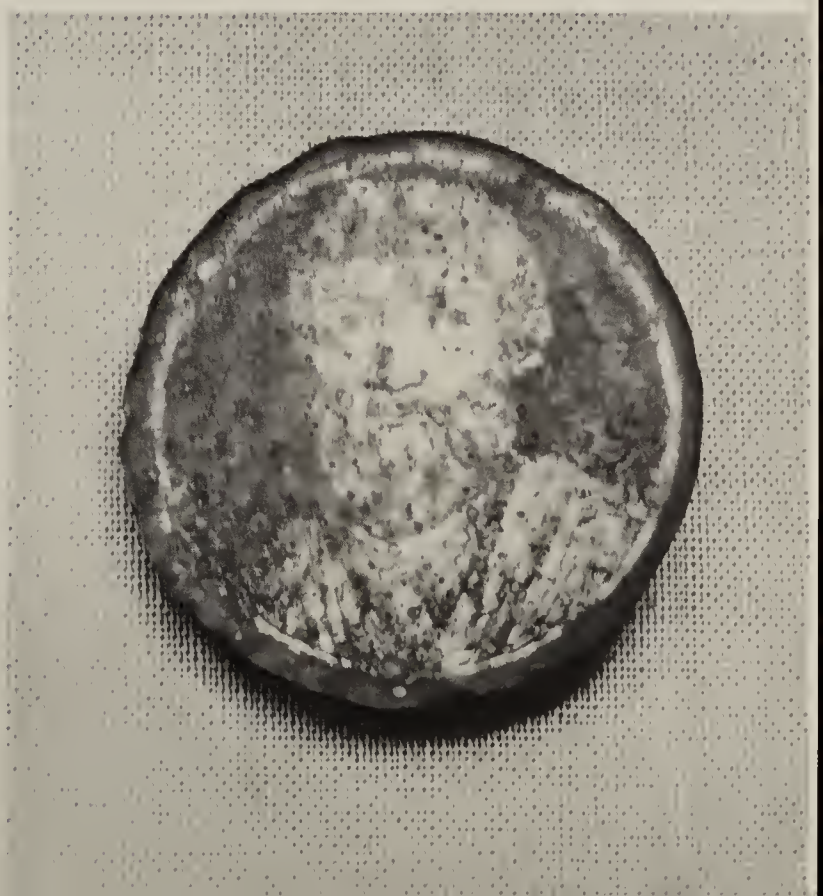
Engraved bowl. Transparent glass. Diameter 3½″. Roman, probably late 1st century A.D.



Mold-blown wine bottle. Transparent blue-green glass with traces of "Frontiniana" inscribed on the bottom. 8¾″ high. Northeastern France, 3rd-4th century A.D.

Free-blown krater. Transparent green glass with lathe cutting. 6⅛″ high. Roman, possibly Italy, 1st century A.D.

The Worringen Beaker. Transparent pale-green blown glass, lathe turned and wheel engraved with mythological scene. 8″ high. Possibly Cologne (found at Worringen, near Cologne, Germany). 3rd-4th century A.D.



Gold-glass medallion. Gold leaf on opaque blue glass ground covered with transparent colorless glass. Diameter $1\frac{11}{16}$″. Probably Roman or Alexandrian, 3rd - 4th century A.D.

Three "Dromedary flasks." Transparent blue-green, olive-green and dark amber glass. Height (left to right): 3 13/16", 5", 4 1/16". Near Eastern, probably Islamic, 6th-8th century A.D.

Balsamarium (unguent flask). Olive-green transparent glass with applied thread decoration. 9¾" high. Probably Syria, 3rd - 4th century A.D.

Fragment of bowl. Pale green transparent glass. Lathe cut along rim with hunting scene in hollow wheel cutting. Arc of rim 8½". Italy or Eastern Mediterranean, 3rd-4th century A.D.

Mold-blown ewer and jar.
Ewer: Pale amber body and olive-green handle (oxidized) bearing Christian symbols. 7¾″ high.

Jar: Dark amber glass bearing Jewish symbols. 3 3/16″ high. Both probably Syrian, 4th-5th century A.D.

Free-blown vessels (left to right):
Jar. Transparent, colorless glass with purple streaks and handles. 2⅞″ high.

Footed bottle. Transparent, dark blue glass. 7 15/16″ high.

Footed beaker. Transparent, pale green glass with tooled thread ornament, 5⅜″ high.

Ewer. Transparent, light green glass with applied thread ornament, 3 5/16″ high.

Footed ewer. Transparent, dark blue glass with thread-coiled foot and tooled handle. 8 7/16″ high.

All are Syrian, 2nd-6th century A.D.

Beaker. Pale green, transparent glass with dark blue-green stripes, foot and rim. Tooled in ridges. 4″ high. Islamic, about 13th century A.D.

Bottle. Transparent, colorless glass with wheel cut ornament. 5⅞″ high. Islamic, probably Iranian, 9th-10th century A.D.

Gold-glass plaque. Gold and black design on deep amber glass backing, covered with thin transparent, colorless glass. 3⅝″ x 3⅞₁₆″. Probably Syrian, 9th-12th century A.D. These plaques of which the Museum has five were perhaps used for decorative inlay in a church.

Jar with applied mold-pressed medallions in the form of birds. Heavy amber glass with tooled shoulder ornament. 3½″ high. Probably Islamic, 7th-10th century A.D.

Bottle with molded ribs. Transparent, amber glass. 5½″ high. Islamic, probably Iran ("Gurgan type"), 11th-12th century A.D. Gift of Tel Aviv Museum, Israel.

The Toledo Flagon. Transparent, pale olive-green glass with enamel and gilt decorations. Inscribed in Arabic: "One of what was made by the order of the Moulowi High Resident to the Emir. May prosperity attend our Master, the Sultan." 13⅝″ high. Islamic, Syria (Damascus?), about 1300 A.D.

Mosque lamp. Transparent, almost colorless glass with enamel decoration. 10¾″ high. Inscribed in Arabic: "This is one of the objects made for the son of His High Excellency, our honored and well-served Lord Nasir al-Din Muhammad, son of His late High Excellency Arghun, the Dawadar of al-Malik al-Nasir. May Allah, the Exalted, cover them with His mercy." Islamic, Syria or Egypt. After 1331 A.D.

Stemmed bowl. Transparent, almost colorless glass with enamel decoration. 12⅞″ high. Islamic, Syria, about 1340 A.D.

Rosewater sprinkler. Transparent, dark blue glass. 14$^{5}/_{16}$″ high. Persia (Shiraz), about 18th century.

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